

Grand Canyon

National Park Service
U.S. Department of the Interior

Grand Canyon National Park
Arizona



Park Themes

INSPIRATION

The immense and colorful Grand Canyon is valued worldwide as one of the Earth’s most powerful and inspiring scenic landscapes, offering people enriching opportunities to explore and experience its wild beauty in both vast and intimate spaces.

Grand Canyon’s immense and richly colored scenic vistas, enhanced by a near-pristine natural setting, inspire a variety of emotional, intellectual, artistic, and spiritual impressions.

- Grand Canyon National Park is located in one of the cleanest remaining pockets of air in the United States and is a Class I area.
- Legislation passed in 1975 to enlarge Grand Canyon National Park contained the first-ever clause mandating the federal protection of “natural quiet and experience.”
- The high elevation, dry air, and remote location create exceptional viewing of the night sky.
- Over one million acres of undeveloped backcountry, hundreds of miles of trails, and 277 river miles containing world-class white-water provide tremendous opportunities for exploration, personal challenge, discovery, learning, social interaction, or solitude.

WATER

Water is the lifeblood of Grand Canyon—a force of erosion, a sustainer of scarce riparian habitat in a desert environment, a spiritual element for native peoples, a provider of recreation, and a central factor in the exploration, development, and politics of the American West.

GEOLOGY

The Colorado River and other erosional forces sculpted the southern edge of the Colorado Plateau to form the Grand Canyon, revealing a beautiful sequence of rock layers that serve as windows into time.

The Grand Canyon of the Colorado River is the world’s greatest example of arid land erosion and one of the most spectacular exposures of stratified rocks.

- Although Grand Canyon reveals rocks ranging from 270 to 1,840 million (*1.8 billion*) years old, the landscape is relatively young, having been sculpted in just the last 5-6 million years.
- The vastness of its landscape—an average depth of 4,000 feet, width of 10-18 miles, and a length of 277 river miles—contains a seemingly infinite system of colorfully sculptured plateaus, mesas, buttes, cliffs, slopes, ridgelines, and side canyons.
- Grand Canyon is composed of a wide variety of rock types that respond differently to the forces of erosion. These rock layers vary in thickness, composition, and uplift, resulting in six geologically distinct sections.
- The Grand Canyon Supergroup is one of the most complete records of Middle and early Late Proterozoic age rocks exposed on the North American continent.
- Early studies of Grand Canyon provided evidence for fundamental geologic concepts, specifically the principles of base level erosion, antecedent and superimposed streams, and the power of rivers to cut canyons.
- Grand Canyon remains a powerful illustration of geologic principles, widely used by educators.

BIOLOGY

Extreme changes in elevation, exposure, and climate in the Grand Canyon support a remarkable range of biotic communities in unusual proximity; a relatively undisturbed ecosystem that allows natural processes to continue, providing sanctuary for present and future life.

Grand Canyon’s extensive sedimentary strata and dry caves preserve a remarkable record of past plant and animal life.

- 1.2 billion-year-old stromatolites (algal mats) preserved in Precambrian Bass Limestone,
- Plant imprints, animal tracks, and extinct species of marine life in Paleozoic strata 245-540 million years ago, and
- Remains of ice age to post-glacial mammals and birds from the Late Pleistocene to Early Holocene.

Grand Canyon’s extreme and abrupt changes in elevation, exposure, and climate support a diversity of communities ranging from desert (including three of the four North American deserts) to boreal forest in unusual proximity.

Early investigations into the biology of the Grand Canyon led to the development of fundamental ecological principles, including:

- The impact of eliminating predators on prey populations (Kaibab Plateau, 1920s),
- The influence of geographic isolation on the evolution of species as illustrated by the Kaibab squirrel, and
- C. Hart Merriam’s delineation of *life zones*.

Grand Canyon is the home of ten threatened or endangered species including the humpback chub, the California condor, and the sentry milkvetch.

PRESERVATION

Grand Canyon has sustained people materially and spiritually for thousands of years – wider recognition of its value led to its designation as a national park and world heritage site; however, continuing threats to its preservation generate dialogue about our need and responsibility to conserve our local and global environment.

Grand Canyon’s cultural history is a study in exploration, exploitation, development, and preservation of land in the American West.

- In 1540 a company of Spanish conquistadors became the first Europeans to set eyes on the Grand Canyon. Their legacy is reflected in place names throughout the canyon. Most significantly, they named the Colorado River for its reddish-brown color.
- During the late 1800s and early 1900s, Grand Canyon reflected the history of the West as it was exploited for minerals. Unlike many “boom and bust” Western settlements, however, miners found more economic rewards in promoting Grand Canyon tourism.
- Prior to the establishment of Grand Canyon National Park in 1919, the Santa Fe Railroad, the Fred Harvey Company, and the U.S. Forest Service played significant roles in the tourist development of the South Rim.
- Mary E. J. Colter, an employee of the Fred Harvey Company, had a profound impact on Grand Canyon architecture. Many of her Grand Canyon buildings are listed on the National Register of Historic Places.
- The use of native rock and log structures in Grand Canyon National Park led to a proliferation of rustic architecture in other national parks, which has come to symbolize and romanticize the West of the late 1800s and early 1900s. The definitive location and collection of historic buildings in Grand Canyon Village is an example of early community planning.
- Yavapai Observation Station is one of the first examples of museums in the national park system.
- Emery and Ellsworth Kolb built a home and photographic studio between 1904 and 1926 on the canyon’s rim. The footage the brothers filmed of their adventurous boat trip on the Colorado River from 1911-1912 was the first-ever movie of river running in Grand Canyon. Emery narrated public showings of the film for the next six decades.

Grand Canyon has played, and continues to play, a pivotal role in precedent-setting conservation issues, including air quality, natural quiet, fire ecology, and adaptive river management.

- The Bureau of Reclamation’s proposal to build two dams in Grand Canyon in the 1960s sparked one of the most notable conservation battles in U.S. history. A nation-wide protest defeated the projects and influenced the modern environmental movement. This pivotal battle set in motion a historic transition from decades of dam building to the present era of proposed dam removal—a shift in societal values currently being played out across the nation.
- Study of the effects of Glen Canyon Dam has resulted in an unprecedented adaptive management approach to mitigate downstream impacts of dam operations. The experimental flood in 1996 marked the first time water was released from a federal dam to benefit the downstream environment.
- The challenges of protecting park resources while providing for the enjoyment of millions of visitors annually led to the implementation of mass transit, in the form of shuttle buses, in 1974. Early in the 21st century, Grand Canyon National Park will expand this mass transit system to preserve park resources and to enhance visitor experience.

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) designated Grand Canyon National Park as a World Heritage Site in 1979, recognizing it as a place of universal value under natural world heritage site criteria to be preserved as a part of the heritage of all peoples.

NATIVE AMERICAN CONNECTIONS

Grand Canyon remains a homeland and a sacred place to a number of American Indian cultures, a point of emergence for some, offering us an opportunity to consider the powerful and spiritual ties between people and place.

A variety of American Indian cultures, past and present, are represented in and around Grand Canyon.

- Clovis and Folsom artifacts indicate habitation 12,000–10,000 years ago, a large collection of well-preserved split twig figures date from a hunting-gathering culture 3000–4000 years ago, and ample remains of ancestral Puebloan people include examples of dry-land farming.
- Many American Indian tribes have close and sacred cultural ties to Grand Canyon, including the Hualapai, the Havasupai, the Hopi, the Kaibab Band of Paiute, the Navajo Nation, the Pueblo of Zuni, the San Juan Southern Paiute, Paiute Indian Tribe of Utah, and the White Mountain Apache. Some of these tribes consider Grand Canyon to be their place of origin/emergence and homeland.
- Despite centuries of conflict with Spanish soldiers, missionaries, miners, settlers, and the U.S. Government, most tribes in and around Grand Canyon have maintained a high degree of cultural integrity.